

MODULAR VEHICLE DRIVETRAIN
CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of commonly owned U.S. Patent Application Serial No. 09/217,264, filed December 21, 1998, now U.S. Pat. No. 6,343,669.

BACKGROUND AND SUMMARY

Parent Invention

The invention of the above-noted parent application relates to ATVs, all terrain vehicles, and more particularly to improvements enabling manufacturing cost advantages. ATVs are known in the art, and have grown in popularity, not only for recreational, but also for various functional purposes. An ATV has a straddle seat, and at least four oversized balloon tires, to overcome prior objections to three wheel ATVs. The ATV has a frame with front and rear suspensions respectively mounting the large tires and allowing sufficient travel to accommodate rough terrain. The parent invention provides a packaging construction providing a manufacturing cost advantage by enabling the use of a mass-produced economical industrial engine in an ATV. In the ATV configuration of the parent invention, a vertical crankshaft is used, which in turn enables usage of the noted mass-produced economical industrial vertical crankshaft engine, such as produced by mass manufacturers such as Kohler, Briggs & Stratton, Tecumseh, and the like. The parent invention enables usage of two cycle or four cycle engines, air cooled or water cooled. The vertical crankshaft in an ATV further enables positioning of the cooling air inlet high on the vehicle, minimizing intrusion of water into the cooling system. Another advantage is that the power take-off shaft can be neatly packaged below the vehicle, maximizing operator safety. Power take-off devices can be attached in a maximally effective plane, namely horizontal. The vertical crankshaft in combination with various power take-off devices, such as pulleys, constant velocity, CV, transmissions or gear devices can be utilized while maximizing packaging efficiency. In a further aspect, the engine fits between the frame rails of the ATV, allowing a narrower package, and minimizing vibration propagation.